

This document is part of an integrated file. If separated from the file it must be subjected to individual systematic review.

Equipment sent out on Nov. 14, 1957
 Hand Carried by [redacted] STAT
 E P
 Sarah MK 220 beacons #6 and #17
 Complete with two long ants.

Sarah Rec. BR1062 #667 with
 power supply 8094 #497 attached

4- URC-17 Units

# 6546	—	263 MC. 2 Mod.
# 6561	—	240.6 MC-2 mod.
# 232	—	240 MODIFIED
# 217	—	240 Modified

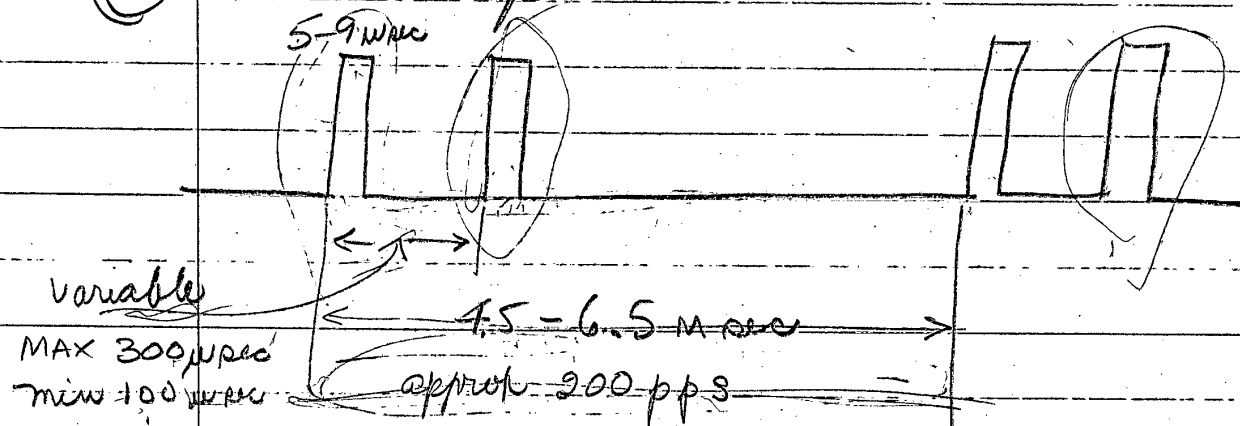
6- 1315/U Batteries

Sarah beacon #7 is now retained
 by the Pop, but now is equipped
 with a short ant. — On April
 16, 1958 a request was received
 from [redacted] for a spare tube STAT
 and Vibrator — These parts were taken
 from beacon #7 and were forwarded
 to him the same date. ~~Done~~

- ① an MK 220 Sarah Beacon in perfect condition should be capable of 15 watts peak to peak.

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- ② The two pulses



The pulse width vary from 5-9 usec.
The prf is approx 200 groups per sec.

- ③ Taking the average of the pulse width (= 7 usec) and from:

$$\text{a) } \frac{P.W.}{PRF} = \text{duty cycle} = \frac{2 \times 7 \text{ usec}}{500 \text{ pps}} = .0028$$

$$\text{b) } \text{Average power} = \text{peak power} \times \text{duty cycle} \\ = 15 \times .0028 \\ = 42 \text{ m.w.}$$

right but
c) using 20 db attenuation to protect the H/P power meter, we should be able to reach 42 m.w. if we load the beacon properly 50-2.

D to load the MK220 beacon is actual test we used a voltage divider 10:1 (50-2) and measured the average power to be

Beacons

RF frequency - any spot frequency 200-245 MCS-
RF output *Beacon* 15 Watts peak *Speech* 3 Watts peak

PRF 190 gps $\pm$ 30 gps or 200 gps $\pm$ 2

P.W. 7 μ sec $\pm$ 2 μ sec

Responing Coding Code A-100-125

B 126-150

C 151-180

D 181-220

Modulation 6-12 Kcs

Average pulse RF Peak deviation $\pm$ 1 Kcs

Max shift of Freq with operating mode 500 Kcs

Search Frequency 25 Kcs $\pm$ 10 Kcs
on receive speech.

Current drain applying to Beacons *Sarah I* RB5C
Sarah II RB5S
High V = 480V 1.5 MA 4.50 1.2 Beacon

4.0 Xmit
3.0 receive

90 100 μ A B
1.5 X

low Voltage 6.3 volts 150-175 MA 115 R

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Freq 200 295 mcs (selected during manufacture)

Xmitt R/T - 1 watt peak.
Receiver sensi 3 μ v for 2:1 S/N ratio

Range - Beacon at sea level.
Seaborne ariel 20 feet above sea 6-8 miles
Airborne 10 000 feet 80-90 miles
(50 over land)

Power inits: 80/115 AC
BP 101 400-1600 c/s 140 volt ampere
BP 100 - 800 2400 c/s 3 watts

G & 1

300 65 ma

230 50 ma

160 Time by 16 ma

+1.5 V anode

-1.4 K anode

-50V Bias

24 vdc 3 watts required for relays.

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